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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

WALKER, KEITH D

ART UNIT

PAPER NUMBER

1795

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12/24/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/762,525

Applicant(s)

NISHIDE, YUKIMASA

Examiner

KEITH WALKER

Art Unit

1795

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-22 and 25-35 is/are pending in the application.
- 4a) Of the above claim(s) 10-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-9 and 25-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/08)
- Paper No(s)/Mail Date 11/21/08.
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claims 1-3, 5-22, & 25-35 are pending in the application with claims 10-22 withdrawn. Claims 1-3, 5-9 & 25-35 are pending examination as discussed below.

Information Disclosure Statement

The information disclosure statement filed on 11/21/08 has been placed in the application file and the information referred to therein has been considered as to the merits.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3, 5, 6, 8, 9 & 25-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,521,498 (Juergens) in view of US 6,287,719 (Bailey) and US 6,265,098 (Audit).

Juergens teaches a secondary battery comprising a first and second cell enclosed in a casing. Each cell has a generally cylindrical core and a first and third wound electrode of opposite polarities. Separators are disposed between the respective electrodes (Fig. 1; 1:5-10, 2:50-60, 4:10-15). The electrode of the first polarity in the first cell has a first edge extending from an end of the first cell and the edge is curving in a first direction and a second electrode of a second polarity in the

second cell has a curving edge that curves in an opposite direction such that the first and second curving edges overlap and are in electrical communication (Figs. 1, 4 & 5; 4:65-5:20). Regarding claims 6, 8 & 9, the method of joining the edge portions is a product-by-process claim and even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process (MPEP 2113). The edge portions are joined by first crimping the edge portions together with a pressure applied exterior to the case from the outside and then the edge portions are welded (Figs. 3-5; 5:50-6:25).

Juergens is silent to a second electrode of the first polarity and a fourth electrode of a second polarity in the same cell.

Bailey teaches a secondary battery with first and second cells wound around a hollow core. First and second electrodes of the same polarity are disposed concentrically around a core and are located first and second distances from the core. A third and fourth electrode of a different polarity as the first and second electrode are disposed concentrically around a core and are located third and fourth distances from the core. The third and fourth distances are greater than the first distance. The first and second cells are electrically connected through opposing polarity electrodes (Figs. 3 & 4; 2:25-40, 3:35-45, 4:40-50). The first and second electrodes are offset from each

other in their direction of alignment. The housing holds the electrode assembly together and a bead helps secure the assembly for attaching a cap plate (Figs. 1 & 2; 3:30-65).

Regarding claim 25, the core is hollow and therefore is configured to route a cooling fluid there through.

The secondary battery has an insulation sheet and is housed by a cylindrical casing (Figs. 1 & 4). Separators are located between the first and second electrodes and the second distance is greater than the first and the second distance is less than the first by inverting the electrodes (Fig. 4).

The motivation to use the second and fourth electrodes of opposite polarity is to create a less expensive and space efficient multi-cell battery. This construction produces higher voltage batteries that utilize lower voltage cells (Abstract, 2:60-65).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the secondary battery of Juergens with the multi-cell construction of Bailey to lower the construction costs and increase the voltage of the battery.

Juergens and Bailey are silent to the first and second cells aligned axially along a generally cylindrical core.

As taught by Juergens, the cells are stacked next to each other with the tabs extending above the windings to electrically connect the multiple cells together (Fig. 1). Stacking the spiral wound batteries on top of each other so that they are aligned axially along a generally cylindrical core is well known in the art and would be obvious to one skilled in the art. Stacking the batteries in a long cylinder would allow a different design

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configuration, which would expand the possible uses of the battery pack. Combining prior art elements according to known methods to yield predictable results and using known techniques to improve similar devices in the same way are considered obvious to one of ordinary skill in the art (KSR, MPEP 2141 (III)).

2. Claims 1-3, 5, 6, 8, 9 & 25-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,521,498 (Juergens) in view of US 6,287,719 (Bailey) and US 6,265,098 (Audit).

The teachings of Juergens and Bailey as discussed above are incorporated herein.

Juergens is silent to the first and second cells aligned axially along a generally cylindrical core.

Audit teaches stacking cylindrical batteries in a manner that axially aligns the cylindrical core of each of the batteries. These tubes are electrically connected together to form packs for use in multiple applications like computers, telephones and other electronic goods (Figs. 8, 9; 14:40-45). The tube battery packs are easily assembled into larger battery packs to supply the required power and in a configuration that meets the physical dimensions of the power requiring application (Figs. 12 & 14a-14e; 15:30-50).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the horizontally staked cells of Juergens with the axially stacked cells of Audit to increase the number of applications the batteries can

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be used in, by increasing the number of stacking designs. Combining prior art elements according to known methods to yield predictable results and using known techniques to improve similar devices in the same way are considered obvious to one of ordinary skill in the art (KSR, MPEP 2141 (III)).

3. Claims 1-3, 5, 6, 8, 9 & 25-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,521,498 (Juergens) in view of US 6,287,719 (Bailey) and US 2003/0148178 (Kaneta).

The teachings of Juergens and Bailey as discussed above are incorporated herein.

Juergens is silent to the first and second cells aligned axially along a generally cylindrical core.

Kaneta teaches electrically connecting multiple batteries together to form battery packs. The batteries are electrically connected in various series and parallel configurations to meet the power requirements of a particular load (Figs. 9-17, [0015, 0027, 0062-0064]). Combining multiple batteries in this manner decreases the internal resistance and electrode terminal resistance is decreased, which in turn lowers the heat generated by the batteries ([0063]).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the battery stacking of Juergens with an axially aligned stacking to electrically connect the batteries in a desired power configuration while lowering the internal resistance of the battery. Furthermore,

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combining prior art elements according to known methods to yield predictable results and using known techniques to improve similar devices in the same way are considered obvious to one of ordinary skill in the art (KSR, MPEP 2141 (III)).

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4,521,498 (Juergens) in view of US Patent 6,287,719 (Bailey) as applied to claim 1 above and further in view of US Patent 6,312,848 (Kilb).

The teachings of Juergens and Bailey as discussed above are incorporated herein.

Juergens is silent to connecting the electrode edge portions together with a ring member.

Kilb teaches using a ring member to electrically attach the edge portions of cells (Fig. 8; 3:10-20). The ring member is one of many known methods of electrically connecting electrodes. Using the ring member forms a mechanically firm connection for the electrodes.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the connection means of Longhi with the ring member of Kilb to form a mechanically firm connection between electrodes.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,521,498 (Juergens) in view of US 6,287,719 (Bailey) and US 6,265,098 (Audit) as applied to claim 1 and further in view of US 6,312,848 (Kilb).

The teachings of Juergens, Audit and Bailey as discussed above are incorporated herein.

Juergens is silent to connecting the electrode edge portions together with a ring member.

Kilb teaches using a ring member to electrically attach the edge portions of cells (Fig. 8; 3:10-20). The ring member is one of many known methods of electrically connecting electrodes. Using the ring member forms a mechanically firm connection for the electrodes.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the connection means of Juergens with the ring member of Kilb to form a mechanically firm connection between electrodes.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection as necessitated by the amendments.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEITH WALKER whose telephone number is (571)272-3458. The examiner can normally be reached on Mon. - Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

K. Walker

/PATRICK RYAN/
Supervisory Patent Examiner, Art Unit 1795